

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

On the Commissioner's Own Motion for a Determination of the Adequacy of Warning Devices at the Grade Crossing of the Union Pacific Railroad Co. Tracks with Morgan Avenue in the City of Milwaukee, Milwaukee County

9040-RX-1178

FINDINGS OF FACT AND ORDER

On February 20, 2004, the Commissioner of Railroads directed the staff of the Office of the Commissioner of Railroads (OCR) to investigate the adequacy of warning devices under §195.28, Stats., at the grade crossing of the Union Pacific Railroad Co. (UP) tracks with Morgan Avenue in the City of Milwaukee, Milwaukee County (Crossing No. 177 202N / MP 4.6).

An OCR investigator inspected the crossings in October 2004. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

Morgan Avenue is about 52' wide and carries two lanes of traffic in each direction in the vicinity of the crossing. Morgan Avenue intersects the railroad tracks at an angle of about 70°. Morgan Avenue carried an average daily traffic (ADT) of 18,900 according to 2000 DOT records at a legal speed limit of 30 mph.

The UP operates 2 switch train movements per day over the crossing at a speed of 20 mph. The crossing consists of one spur track. The railroad currently has a stop and flag order for this crossing.

A motorist traveling at 30 mph requires a safe stopping distance of 231'. The crossing is visible from more than 231' in each direction. Assuming a train speed of 20 mph, a motorist traveling at 30 mph needs to see a train when it is 205' from the crossing from a point 231' down the highway. The sight distance available is inadequate in each quadrant from the safe stopping distance.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the Morgan Avenue crossing is 450'. The available clearing sight distance is 150'.

The exposure factor at this crossing is about 40,000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Nine train-vehicle accidents have occurred at this crossing since 1973. The accidents occurred in 1977, 1998, 1996 (2), 1998 (2), 2001, and 2002 (2).

An accident prediction model developed by the Federal Railroad Administration (FRA) allows a projection of expected future accidents based on a number of factors including train volume and speed, highway volume and accident history. The model can be used to compare the expected accident rates given different warning devices. The predicted rate, however, is only one tool for evaluating safety improvements and does not replace sound judgment based on a consideration of all known factors.

The Morgan Avenue crossing has a predicted accident rate of 0.10 accidents per year, or one accident every 10 years, with the present warning devices.

The crossing presently has reflective crossbucks and advance warning signs for warning devices. The existing warning devices are inadequate. The stop and flag order that the UP currently applies does adequately protect public safety. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety cantilevered 12" LED automatic flashing lights with gates and island circuits are needed because of the ongoing accident history and the exposure factor.

Light emitting diodes (LED) are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Source of funding: The signal materials will be paid for with DOT hazard elimination funds. The UP shall be responsible for the cost of labor, labor additives, and personal expenses alone.

Conclusion on the Issue

THE COMMISSIONER CONCLUDES:

That in order to adequately protect and promote public safety, it is necessary to install and maintain cantilevered 12" LED automatic flashing lights with gates at the crossing of the tracks of the Union Pacific Railroad Co. with Morgan Avenue in the City of Milwaukee, Milwaukee County.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Union Pacific Railroad Co.** shall install and maintain cantilevered 12" LED automatic flashing lights with gates, and island circuits with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with Morgan Avenue at-grade in the City of Milwaukee, Milwaukee County by **December 31, 2005** (Crossing No. 177 202N).

2. That the **Union Pacific Railroad Co.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

3. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

4. That the **Union Pacific Railroad Co.** shall be responsible for the cost of labor, labor additives, and personal expenses alone and for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

5. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.

6. That jurisdiction is retained.

Dated at Madison, Wisconsin, _____.

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen
Commissioner of Railroads